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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,917	03/31/2004	Michael Colin Begg	34-125	5698
23117 7590 05/12/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
TUGBANG, ANTHONY D				
ART UNIT		PAPER NUMBER		
3729				
MAIL DATE		DELIVERY MODE		
05/12/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,917

Applicant(s)

BEGG, MICHAEL COLIN

Examiner

A. Dexter Tugbang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on February 6, 2008, PROSECUTION IS HEREBY REOPENED. New grounds of rejections are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

2. In regards to the merits of Henke, the examiner maintains the rejection and the applicant(s) arguments filed in the Appeal Brief have been fully considered, but they are not persuasive. The examiner reiterates that Claims 1 through 4, particularly Claim 1, is constructed such that the preamble of the claim (i.e. MRIS shim coil) does nothing to import any structure into the body of the claims (mainly lines 2-3 of Claim 1). Therefore, the 35 U.S.C. 102 rejection of Henke is maintained. The combination of the AAPA and Henke is maintained as being an

obvious combination in so much as each is associated with solving the very same problems of manufacturing coils or windings.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

4. Claims 5 and 8 through 10 continue to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 13, 2006.

Claim Rejections - 35 USC § 102

5. Claims 1 through 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Henke 1,804,214.

Henke discloses a method of forming an electrical coil comprising: forming a required coil pattern in a sheet of electrically conductive material by punching (e.g. stamping discussed at page 1, lines 47+).

Regarding Claim(s) 2 and 3, the coil pattern is punched or stamped from a sheet of material and is shaped by stamping and bending from a stamping machine or die (page 1, lines 51-60).

With respect to the process steps being drawn to an “MRIS shim coil”, these limitations recited in the preamble of the claims are merely intended use limitations and have not been given

patentable weight since the body of the claims do not depend upon the preamble for completeness and the process steps are able to stand alone. *In re Hira*, 535 F.2d 67 190 USPQ 15 (CCPA 1976).

6. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Doty et al 6,175,237.

Doty discloses a method of making MRIS shim coils comprising: forming a required coil pattern (e.g. 10, 20 in Fig. 1) in a sheet of electrically conductive material (i.e. metal foil laminate, not labeled) by cutting using a laser (col. 3, lines 1-11).

Claim Rejections - 35 USC § 103

7. Claims 1 through 3, alternatively, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant(s) Admitted Prior Art, referred to hereinafter as the AAPA, in view of Henke.

In the event that the applicant(s) believe that the preamble of the claims somehow further limits the process to be specifically directed to an MRIS shim coil, then the AAPA (specification, pages 1-3) discloses that making a MRIS shim coil is conventional and well known. However, the AAPA does not teach that the coil pattern of the MRIS shim coil can be made by cutting.

Henke discloses a method of forming a coil pattern as noted above (in paragraph 5) for the advantage of assembling the coil pattern with ease in a closed magnetic core (page 1, col. 15-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the AAPA by utilizing the process steps of Henke, for the advantage of assembling the MRIS shim coil with ease in a magnetic core.

8. Claims 1, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of LaPlante et al 6,615,481.

The AAPA discloses that it is conventional and well known in the art to manufacture MRIS shim coil windings. However, the AAPA does not state that the MRIS shim coil windings are formed by cutting (as required by Claim 1), or by cutting a continuous sheet of electrically conductive material along spaced apart paths, including an insulating substrate (as required by Claim 6).

LaPlante shows a coil making process that comprises: creating plural adjacently positioned coil windings by cutting a continuous sheet of electrically conductive material (i.e. copper sheet, Fig. 2) along spaced apart paths (either on opposite sides of the substrate in Figs. 3A or 3B, or alternatively on the same side of the substrate in Fig. 5), in which windings are physically retained in adjacent as-cut positions by an insulating substrate (e.g. ceramic substrate 102) adhered to the conductive material, where the cutting removes the conductive material along cutting paths by laser beam (col. 3, lines 37+).

Regarding Claim(s) 7, LaPlante further shows a first cutting step where bridges of material (i.e. copper material initially formed between windings via a copper sheet in Fig. 5) are left along the cutting paths during formation of the windings, to maintain the adjacent as-cut positions of the coil windings while on the insulating substrate (block 204 in Fig. 2) followed by a second cutting step of cutting off the bridges (i.e. copper material in-between windings on the

same side of the substrate in Fig. 5) completely to form an electrical separation between the adjacent winding conductors thus formed.

There are several associated advantages of the LaPlante coil making process, which is to:

- 1) allow patterning of the coil windings at a high resolution with a higher density (see abstract);
- 2) provide a cost effective and simplified manufacturing process (col. 1, lines 64-66); and
- 3) provide thermally stable coil windings (col. 2, lines 1-5).

It would have obvious to one of ordinary skill in the art at the time the invention was made to have manufactured the MRIS shim coils of the AAPA with the coil making process of LaPlante, for anyone of, or all of, the associated advantages of LaPlanta.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 571-272-4570. The examiner can normally be reached on Monday - Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 7, 2008

/Peter Vo/

Supervisory Patent Examiner, Art Unit 3729